

Operations with Monomials and Polynomials

Grades: 9

Subject: Mathematics

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An algebraic expression that has more than one term is called a polynomial.

True

False

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Is $x^5y^4z^2$ a polynomial?

Yes

No

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$x^3y - 7x + 2z$ is a monomial.

True

False

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Simplify this expression.
 $(2x + 4) - (-x + 9)$

A $5 - 3x$

B $x - 5$

C $5x - 3$

D $3x - 5$

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Simplify this expression.
 $(4x^2 - 5x + 9) + (10x^2 - 7x - 1)$

A $14x^2 - 12x + 8$

B $14x^2 - 2x + 8$

C $14x^2 - 12x - 8$

D $12x^2 - 14x + 8$

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6 The expression $(3x^5y^6)(5x^8y^2)$ can be simplified to $15x^{10}y^{12}$.

True

False

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7 What is the GCF of $7p^2+21p+49$?

?

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8 What is the GCF of $4x^2+20x-16$?

?

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9 What is the GCF of $-3a^3-18a^2-12a$?

- A -3
- B 3
- C 3a
- D 6a

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10 Simplify $-7h(2h^2-5h+2)$.

- A $-14h^3+35h^2-14h$
- B $-14h^3+35h^2+14h$
- C $-14h^3-35h^2+14h$
- D $-14h^3-35h^2-14h$

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11 Find the GCF of $4b^3-12b^2-16b+20$.

- A $2b$
- B $4b$
- C 2
- D 4

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Factor $6m^3 - 12m^2 - 24m$.

- A** $2(3m^3 - 4m^2 - 12m)$
- B** $2m(3m^2 - 2m - 12)$
- C** $6(m^3 - 2m^2 - 2m)$
- D** $6m(m^2 - 2m - 4)$

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Is the problem below solved correctly using the Distributive Property?

$$\begin{aligned}(3x+2)(x+4) &= \\ 3x^2 + 12x + 2x + 8 \\ 3x^2 + 14x + 8\end{aligned}$$

Yes

No

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Is the problem below solved correctly using the FOIL method?

$$\begin{aligned}(3x-5)(4x+6) &= \\ (3x)(4) + (3x)(6) + (-5)(4x) + (-5)(6) \\ &= 12x^2 + 18x - 20x - 30 \\ &= 12x^2 + 2x - 30\end{aligned}$$

Yes

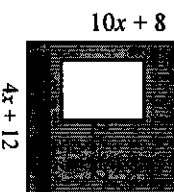
No

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Find the area of the shaded region.

- A** $38x^2 + 152x + 94$
- B** $38x^2 + 152x + 90$
- C** $38x^2 + 150x + 92$
- D** $38x^2 + 154x + 92$



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Solve $(4x^2 + x - 6)(2x^2 - 3)$.

- A** $8x^4 + 2x^3 - 3x + 18$
- B** $8x^4 + 2x^3 - 24x^2 - 3x + 18$
- C** $8x^4 + 2x^3 - 20x^2 - 3x + 18$
- D** $8x^4 + 2x^3 - 24x^2 - 3x - 18$

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Find the coefficient of the middle term of $(7x+5)^2$.

?

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18 Find the middle term of $(9m-6)^2$.

?

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19 Does $(t^4-3)(t^4+3) = t^8-9$?

Yes

No

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20 Factor $x^2+19x+48$.

- A $(x+12)(x+4)$
- B $(x+3)(x+16)$
- C $(x+24)(x+2)$
- D $(x+6)(x+8)$

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21 Factor $x^2-23x-24$.

- A $(x+24)(x+1)$
- B $(x+24)(x-1)$
- C $(x-24)(x-1)$
- D $(x-24)(x+1)$

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22 Factor x^2-7x+6 .

- A $(x+6)(x-1)$
- B $(x+6)(x+1)$
- C $(x-6)(x-1)$
- D $(x-6)(x+1)$

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23 Factor $2x^2-11x+15$.

- A $(2x-5)(x-3)$
- B $(2x-3)(x-5)$
- C $(2x+5)(x-3)$
- D $(2x-5)(x+3)$

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Factor $25x^2 + 80x + 64$.

- A** $(5x+8)(5x-8)$
- B** $(5x+8)^2$
- C** $(5x-8)^2$
- D** $(5x+8)$

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Factor $12x^2 + 36x + 27$.

- A** $(6x+9)(2x+3)$
- B** $3(x+3)^2$
- C** $3(x-3)^2$
- D** $(3x+3)(4x+9)$

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Factor $16x^2 - 144$.

- A** $(4x-12)(4x+12)$
- B** $(4x+12)^2$
- C** $(4x-12)^2$
- D** $16(x+3)^2$

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Simplify this expression.
 $(-3x^2 + 4x)(10x^2 + 10x)$

- A** $-30x^4 + 10x^3 - 40x^2$
- B** $-30x^4 - 10x^3 - 40x^2$
- C** $-30x^4 + 10x^3 + 40x^2$
- D** $30x^4 + 10x^3 + 40x^2$

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